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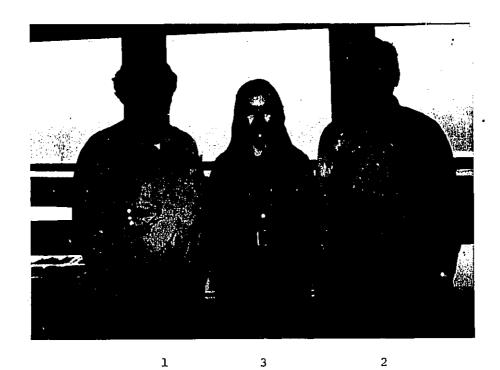
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CALHOUN NATIONAL WILDLIFE REFUGE
Brussels, Illinois

ANNUAL NARRATIVE REPORT

Calendar Year 1982

U.S. Department of the Interior Fish and Wildlife Service NATIONAL WILDLIFE REFUGE SYSTEM



Personnel

1. George W. Peyton Refuge Manager GS-11 PFT 8/14/77
2. Eugene Simon Maintenance Mechanic WG-9 PFT 12/29/65
3. Lucille Douglas Clerk-Typist GS-3 PPT 7/13/80

Review and Approvals

Deorgon/Jeofer 2/16/63 Mark Twain NWR
Project Leader Review

Regional Office Review

Date



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Nothing to Report

A. HIGHLIGHTS

The staff was able to move into the new refuge buildings the first of the year. (Section I.1)

Landscaping around the new buildings was completed during the year. (Section I.1)

As in 1981 flooding of both the Illinois and Mississippi Rivers stopped most of the refuge maintenance that was planned for the year. (Section B)

Calhoun's first Open House was held this year and was a big success. (Section H.6)

B. CLIMATIC CONDITIONS

Calhoun was flooded by waters from the Illinois and Mississippi Rivers 6 times during the year. A near record flood occured in December when the Mississippi River at Grafton crested at 27.7 feet. This was 9.7 feet above flood stage. The Illinois River rose 13 feet from December 2 to the 9. Four feet of this rise occured on December 3 and another 4 feet occured on December 4. This flooding was created by heavy rains in Missouri and Illinois. Annual precipitation was over 8 inches above normal. Snowfall was only 11.5 inches for the year compared to a normal of 19.8 inches.

Temperatures ranged from a low of $-16^{\circ}\mathrm{F}$ in January and February to a high $101^{\circ}\mathrm{F}$ in August. (Table I)

A tornado crossed the refuge on December 2, picking up several trailor houses at a trailor park near the refuge and scattering them all over the refuge, dumping some into Swan Lake. A large number of trees on the refuge were torn up, but no buildings, facilities or equipment were damaged. This storm produced 5.75 inches of rain on December 2 and 3.

D. PLANNING

2. Management Plan

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An Annual Management Report for CY 1981 and Annual Management Plan for CY 1982 was written up on General Plan Lands. This report and plan was sent in to the St. Louis District Corp of Engineers.

The Annual Water Management Plan was written up but many of the management practices had to be changed because of flood waters.

3. Public Participation

Tom Saunders, Don Young, Jerry Cummings, Scott Bates and Refuge Manager Peyton



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1982 Weather, Calhoun NWR

·	Preci	pitation		Temperati			
Month	1982	Normal	Snowfall	<u>Maximum</u>	Minimum	Mean 1982	Мецп 1 <u>941-81</u>
January	4.35	1.85	1.0	56	-1.6	19.2	31.7
February	.48	2.28	0	67	-16	34.1	34.6
March	2.96	3.34		77	22	47.0	44.2
April	2.90	3.71	1.5	84	23	52.3	56.1
May	4.32	4.06		88	50	71.9	65.8
June	4.85	4.04		94	51	70.8	75.5
July	4.76	3.32		96	60	80.0	79.4
August	3.39	2.94		101	52	75.4	77.5
September	4.49	3.15		88	42	68.0	70.0
October	2.04	2.64		88	27	59.0	58.7
November	2.96	2.64	Trace	79	18	47.1	45.4
December	8.96	2.20		72	1.3	43.6	35.1
Total	44.66	36.64	11.5				
Extremes				101	-16		

This weather data was collected from the refuge weather station near the new refuge buildings.

(Table I)

The transfer of the second of



Flooded farm field a very familiar sight on Calhoun this year.

G.W.P. 7/82



Debris and damaged trees left on the refuge after a tornado went through on December 2.

G.W.P. 12/82

meet with 6 members of the Migiatory Waterfowl Hunters to discuss management of the refuge. Migiatory Waterfowl Hunters were interested in bringing back desirable vegetation in Swan Lake.

E. ADMINISTRATION

1. Personnel

A temporary biological aid position which was scheduled to be filled during the summer (June to August) could not be filled because of a budget cut.

All other staffing remained the same as 1981.

		Perm	aner	ıt		
		Full-Time	Pá	irt	-Time	Temporary
FΥ	1982	2	1.	(3	days/week)	1
FY	1981	2	1	(3	days/week)	1
FΥ	1980	2	1	(3	days/week)	1
ΓY	1979	2			- '	1
FY	1978	2				1

5. Funding

Calhoun NWR O&M funding for 1982 totaled \$80,000 a reduction of \$3,000 from 1981. Salaries and other fixed costs accounted for 95% of the total O&M budget leaving only \$4,000 in discretionary monies.

In addition to O&M funds the following funds were also available.

\$6,000 Revolving Rehab funds carried over from FY 1981 to clean out Gilbert Lake Ditch.

\$13,700 BLHP funds to construct a flammable storage building.

\$7,850 BLHP funds to purchase and plant landscaping materials.

\$1,000 8210 (Proceeds from Sales) funds to accomplish maintenance work on Corps of Engineers land managed by the refuge.

6. Safety

There were no lost time accidents on the refuge during 1982. Total number of hours worked since the last lost-time accident now total 7,198 hours.

Monthly safety meetings were held and the following films were shown:

[&]quot;Winter Driving"

[&]quot;Down & Out"

[&]quot;Portable Electric Power Tools"

[&]quot;Options to Live"

"Flash Point"

"Float for Your Live, Part B"

" The A,B,C's and D's of Portable Fire Extinguishers"

"Emergencies in the Making"

"Electrical Hazards in the Home"

"The Iron Graveyard"

"Adverse Weather Driving Conditions"

"That Feeling of Falling"

Four of these films count toward the required employees Defensive Driver Training.

7. <u>Technical Assistance</u>

Refuge Manager Peyton attended Great III Wildlife Work Group meetings.

Refuge Manager Peyton and Scott Bates attended a meeting with Rick Messinger of Illinois Department of Conservation to discuss duck blind allocation of State managed Corp of Engineer lands.

Refuge Manager Peyton attended the Corp's public hearing on Kiesel Marine's proposed barge fleeting area on the Mississippi River at Portage Des Sioux Missouri.

8. Other Items

Robert Stratton entered on duty as the Project leader for the Mark Twain Complex at Quincy.

The following training courses were completed by refuge personnel during the year:

Course/Workshop	Location	<u>Participants</u>
Fire Suppression S-130/S-190	DeSoto NWR	Peyton, Simon
Defense Small Purchase Course	Correspondence	Peyton, Douglas
Inland Spills Conference	Columbus, Ohio	Peyton
Inaw Enforcement Refresher/ Firearms Qualification	Crab Orchard NWR	Peyton

F. HABITAT MANAGEMENT

2. Wetlands

a. Swan Lake

This 2,500 acre unit is the largest wetland unit on Calhoun. The productivity of Swan Lake was low this year because of high water and a soft

silt bottom.

b. Moist Soil Units

MSU #1 (53.2 acres) remained flooded throughout the year. Swamp smartweed (Polygonum coccineum) was the predominant plant. These plants flowered abundantly but produced only a small volume of seed.

A small amount of pumping was required to raise the water level in this unit to a point where water could be pumped from it into Office Moist Soil Unit. Duck use was high with a peak of 5,000 and a total of 100,000 use days.

MSU #2 (6.5 acres) stayed to wet to be burned, plowed and planted to millet as was planned in annual water management plan. Swamp smartweed, swamp milkweed, silver maple and willow were the most abundant plants found in the area. Willows and maples were cut down with a rotary mower in August when the area finally dried out enough.

The unit was flooded in October but there was little use by waterfowl.

MSU #3 (35.8 acres) had a heavy stand of swamp smartweed. This area was not subject to continous flooding and produced little or no waterfowl food. No management was used on this area.

Waterfowl used thi rea very little.

MSU #4 (8 acres) was flooded throughout the year. A drawdown could not be conducted to provide habitat for shorebirds. Waterfowl did use it heavily (800 peak and 25,000 use days) as a resting area.

MSU #5 (24.7) was flooded most of the year and stayed to wet throughout the year to allow any management to be accomplished. This was the second year planned plowing of the area had to be put off because of flood waters. Willows have therefore become well established and need to be controled as soon as possible.

Waterfowl use of this area was heavy where the willow growth was light.

MSU #6 is the highest in elevation of all the Calhoun MSU's It normally does not hold water but this year with all the flood waters it was under water several times. The only management possible on this area was the cutting of several patches of willows with a rotary mower.

Office MSU was scheduled to be planted to buckwheat and millet but this could not be accomplished because of high waters. It was flooded with the Crissafulli pump and received only limited use by waterfowl.

3. Forests

Maintenance man Simon planted 500 black walnuts, 500 red oaks, 350 autumn olive, 100 pin oaks, 100 crabapples and 100 white pines in an effort to reforest a small area on the south side of the new building site. These





Willow growth on Moist soil unit after not being able to conduct any management for two years.

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G.W.P. 8/82

trees were purchased from the Illinois Dept. of Conservation Forestry Division. Good survival was obtained on maples and sycamores planted in 1981 in this same area.

4. Cropland

Calhoun has 819.5 acres of land under cultivation. This land is farmed by 8 cooperative farmers. This years flooding reduced both the number of acres that could be farmed and the yield of some of the crops that were planted.

Cooperative agreements called for the planting of 134 acres of corn with 90 acres being left in the field for waterfowl. Cooperators were able to plant only 104 acres of corn and 89 acres were left in the field. Corn yield was low because it was subject to flooding and most of it was planted late in the season. Farmers were able to plant and harvest only 362 acres of soybeans out of a planned 546 acres. Wheat was aerially seeded into 293 acres of standing soybeans. The following plants were scheduled to be planted to provide wildlife food and as a soil builder, 72 acres of clover, 34 acres of food patch mix, 19.5 acres of millet, 3 acres of sunflowers and 48 acres of wheat. None of this planting could be accomplished because of the flooding.

Surplus crops were harvested and sold and the resulting funds were deposited in the 8210 Special Account. This years deposits were small with only 418.78 bu. of soybeans being sold for \$2,218. The 8210 Special Account is for money received from surplus crops grown on Corps of Engineer's land. This money comes back to the contributing station for rehabilitation and maintenance.

9. Fire Management

A small area near the refuge office which was planted to native grass in 1981 was burned. No problems were encountered with this burn.

Refuge Manager Peyton and Maintenance man Simon completed Fire Control Training S 190 and S 130 at DeSoto N.W.R.

 Λ new slip in fire pump and tank which was purchased with Washington Office end of year funds was received by the refuge.

10. Pest Control

Five different chemicals were used on the area to control undesirable vegetation.

Roundup was used to spot treat 2 acres of Shatter Cane at a rate of 3 lb. AI/acre.

Treflan was applied to 31 acres of soybeans to control wild sunflower, cocklebur and buttonweed. Application rate ranged for 1 to 14 lbs. AI/acre.

Lasso was applied to 136 acres of corn and soybeans to control cocklebur, smartweed, and morning glory. The application rate ranged from $\frac{1}{2}$ lb AE/acre to 3 lb AE/acre. A total of 308 lbs AE were used on the area.

The street of the street seeding

CHARLES OF SELECTION OF THE PARTY OF THE PAR

Sencor was used to control cocklebur in 11 acres of soybeans. It was applied at a rate of $^1\!4$ lb. AE/acre.

Atrazine was used to treat 20 acres of corn to control foxtail, wild sunflower, cocklebur, smartweed and mourning glory. It was applied at a rate of 1 lb. AE/acre.

Refuge Manager Peyton and Maintenance man Simon both maintained their Chemical Applicators Certification.

G. WILDLIFE

1. Wildlife Diversity

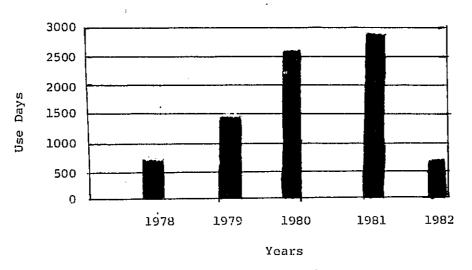
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Wildlife diversity is considered in refuge planning, development and management.

The tree planting that was accomplished this year included a wide variety of trees to provide a diverse habitat. Native grasses and forbs were also planted to provide for a greater variety of wildlife.

2. Endangered and/or Threatened Species

Bald Eagle use from 1978 through 1981 has been steadly increasing until 1982 when there was a sharp decline of use. Use in 1982 represented only 26% of the use occuring in 1981. This decrease can probably be attributed to the cold weather during January and February.



Eagle Use Days (1978 - 1982)

One osprey was observed on the refuge in 1982.

3. Waterfowl

Duck use was down for the second year in a row. Use this year totaled 1,108,845 use days a reduction of 32% from 1981. Mallards accounted for 95% of this use. The largest concentration of ducks occured in November with a peak of 19,670.

Duck production for the year was 400 mallards, 25 blue- winged teal and 800 wood ducks.

Snow/blue goose use totaled 767,635 use days an increase of 129,875 use days over 1981. Canada goose use amounted to 128,435 use days a decrease of 159,275 from 1981.

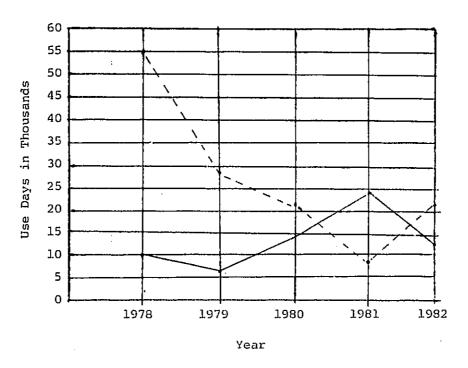
Coot use totaled 190,815 use days with a peak of 6,000 in March.

All waterfowl flights were late this year do to unusually warm weather.

4. Marsh and Water Birds

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Marsh and water bird use went down from 23,745 in 1981 to 12,953 use days in 1982. The great blue heron and the great egret were the most common species seen from this group. Seven white pelicans were seen in October and 1 spent the entire winter on the area.



Use Day for Marsh and Water Birds

Use Days for Shorebirds, Gulls, Terns & Allied Species -----



4500
4000
3500
3500
2500
2500
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982

Duck Use Days - Calhoun Division

*Calhoun and Gilbert Lake Divisions Combined

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Use Days in Thousands 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982

Goose Use Days - Calhoun Division

Blue and Snow Geese -----Canada Geese

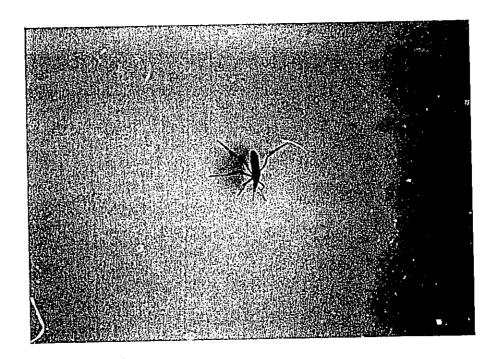
* Calhoun and Gilbert Lake Divisions Combined

12.



Flock of geese feeding on wheat which was aerially seeded into standing soybeans.

G.W.P. 11/82



Refuge mascot and crowd disperser.

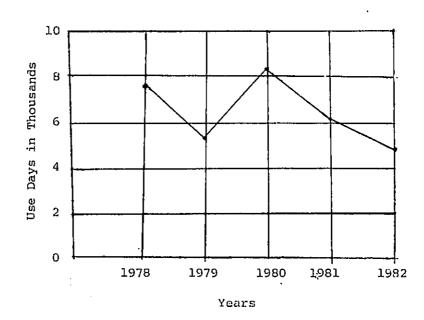
G.W.P. 8/82

5. Shorebirds, Gulls, Terns and Allied Species

Use by this group amounted to 21,215 use days an increase of 12,592 use days over 1981. The pectorical sandpiper was the most common bird in this group. Twenty four species of birds for this group were found on the refuge.

6. Raptors

Raptor use totaled 5,135 use days. Marsh hawks, red-tailed hawks, rough- legged hawks, American kestrel and broad-winged hawks were all seen on the area during the year but the red-tailed hawk was the most common.



8. <u>Game Mammals</u>

The beaver population on the refuge has increased and is a constant source of trouble. Very seldom is a water control structure opened by the refuge staff that a beaver doesn't come along and plug it up.

Use Day Raptors

10. Other Resident Wildlife

Quail make good use of the native grass plantings around the buildings. Because of these plantings quail use on the refuge is heavier than in past years.

II. PUBLIC USE

5. <u>Interpretive Tour Route</u>

Visitors were given a guided tour of the refuge on a rented bus during the Refuge Open House held on November 7. One hundred and fourty visitors took advantage of the 30 minute tour of the refuge.

6. Interpretive Exhibits/Demonstrations

Refuge Manager Peyton set up a systems 70 exhibit and answered questions at the annual National Hunting and Fishing Day at Winchester's Nilo Farms, approximately 1,000 people were present.

The Refuge Open House which was held on November 7 had good attendance with 315 visitors showing up. During the Open House visitors were given a tour of the new refuge facilities and offered a chance to view several wildlife films. The local SCS office also brought out an exhibit and set it up for the open house.

7. Other Interpretive Programs

Dr. Richard Coles of Washington University in St. Louis brought 9 students out to the refuge on a birding tour.

Refuge Manager Peyton gave a slide presentation to the Illinois Conservation advisory board.

Refuge Manager Peyton gave a slide presentation on refuge management to 9 wildlife management students at Principia College.

9. Fishing

Flood waters really brought fishermen out to the refuge to catch carp and buffalo. Fishermen used every kind of equipment known to catch fish.

Fifty permits were issued to fish the lower end of Swan Lake using commercial equipment. With all of the unemployment in the local area these permits didn't last long. The refuge started issuing out permits the first of March and all permits were gone before the month was over. In the past there were still permits to issue at the end of the season. Total catch of fish caught under these permits was 153,533 lbs. This catch consisted of:

 Carp
 74,406 lbs.

 Buffalo
 58,485 lbs.

 Catfish
 5,431 lbs.

 Spoonbill
 7,159 lbs.

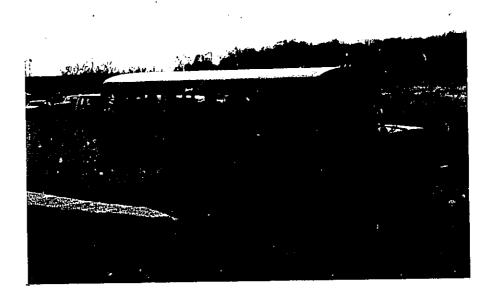
 Drum
 7,857 lbs.

 Bowfin
 195 lbs.

11. Wildlife Observation

Most wildlife observation occurs from county highway #1, where people stop to observe waterfowl feeding in the refuge corn fields. The observation deck on the office/public use building is receiving more use as more people find out about it.

16. Other Non-Wildlife Oriented Recreation



Bus load of refuge visitors returning from a guided tour of refuge during refuge open house.

O.T.F. 11/82



Mr. Gibbons of The Regional Office and other open house visitors observing some of refuge displays.

O.T.F. 11/83



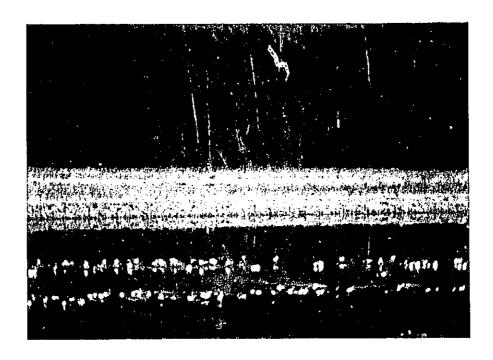
Fisherman using a dipnet to catch carp and buffalo during high waters on the refuge.

G.W.P. 7/82



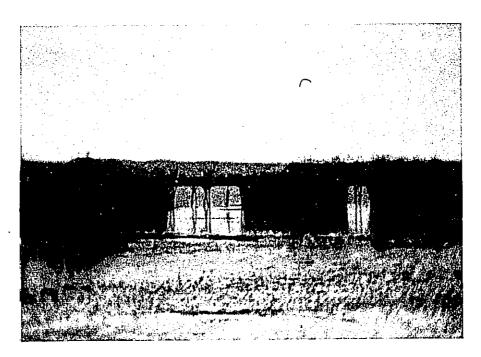
Refuge visitors taking advantage of observation deck on refuge office to check out birds.

O.T.F. 11/81



Waterfowl on new office MSU as seen from the observation deck.

G.W.P. 12/82



Openings cut through trees and brush around Swan Lake so visitors on observation deck can see Swan Lake.

G.W.P. 7/82

Visitors looking for pecans had fair success this year as most trees had nuts on them. One hundred and ninty five visits were paid to the refuge looking for pecans.

17. Law Enforcement

Two local boys were caught shooting muskrats on the refuge by Illinois Department of Conservation Officiers. They had 30 muskrats in the boat with them at the time they were caught. Their case is still pending in state court.

The state officers gave refuge personnel a great deal of assistance with law enforcement especially on commercial fishing regulations on Swan Lake.

I. EQUIPMENT AND FACILITIES

1. New Construction

Landscaping around the new buildings was completed by a Bethalto Landscaping firm. Several trees did not live and will have to be replaced by the contractor.

Construction of a new flammable storage building was started and completed except for the doors which had to be ordered and were not received at the end of the year.

The native grass plantings around the buildings showed good growth with the big bluestem and indiangrass really showing up.

New information signs were put up to guide visitors to the office.

2. Rehabilitation

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The old worn out gas engine in the dragline was pulled out and replaced with a diesel engine.

4. Equipment Utilization and Replacement

A new fuel efficient pickup truck was received on May 25. This truck was received without a rear bumper. This was the only way the company could get it to meet the energy effeciency qualifications.

 $\boldsymbol{\lambda}$ new disk plow was purchased to be used to control brush on the refuge moist soil units.

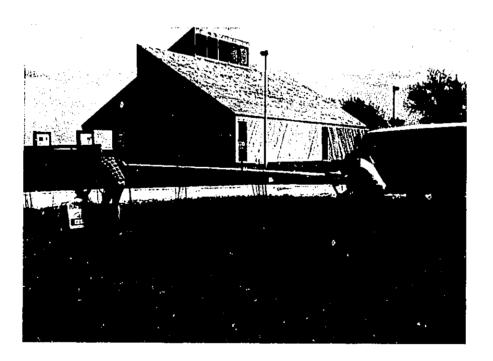
A Crisafulli pump and a Deutz engine to power it were transferred from Union Slough Refuge.

Surplus furniture was picked up by the Kansas City Area Office and were transported to different Mark Twain Stations by Maintenance Men Simon and Allen and Clarence Cannon Assistant Refuge Manager Schumacher.



Growth of native grasses around new buildings in second year after planting.

G.W.P. 11/82



Landscape work being accomplished by contractor around new buildings.

G.W.P. 7/82

6. Energy Conservation

Pumping to flood and dewater moist soil units was reduced considerably by using gravety to move water as the Swan Lake and the Illinois River levels changed.

After being in the new buildings a year, I can see several ways to reduce the energy required to heat and cool them. Several things can and are being corrected. It sure would help if the buildings could be rotated so sun would come in through windows which are on the north.

Mr. Jack Lynch and Rudy Olson from an energy consulting firm in Minnesota were on the area to study the situation and to make suggestions to conserve energy.

J. OTHER ITEMS

1. Cooperative Programs

Refuge Manager Peyton meet with Mark Twain personnel from Quincy, IDC personnel, and Corp. of Engineers personnel to discuss the management of Corp land.

Items of Interest

Refuge Manager Peyton presented Refuge Revenue Sharing Check for \$6,699.00 to Calhoun County Treasurer.

Refuge Manager Peyton checked out a barge loaded with Potash which sank in the Mississippi River.

3. Credits

Douglas - Typing and assembly.

1982

Mark Twain National Wildlife Refuge Calhoun District

Batchtown Division

Annual Narrative Report
Calender Year 1982

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U.S. Department of the Interior Fish and Wildlife Service National Wildlife Refuge System

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2.	Cooperative Programs Items of Interest . Credits		٠	•	•							•			Nothing to Report
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A. HIGHLIGHTS

The unit was flooded by the Mississippi River several times during the year. (Section F.2)

F. HABITAT MANAGEMENT

2. Wetlands

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Scheduled control burning and dozing in Middle Pool to control brush could not be accomplished because of flooding.

Despite flooding by the Mississippi River the Corps of Engineers kept the water down long enough that natural waterfowl food plants on the Upper and Lower Pools of the Refuge and the Batchtown state hunting area did real well.

In Prairie Pond and MSU #1 areas of Middle Pool the most abundant plants were willows. Smartweed was common on both areas but willows are fast crowding it out.

The draining of Prairie Pond was started several times but each time flooding from the Mississippi River filled it up again.

MSU #1 was plowed with the disk plow to control brush in August.

4. Croplands

Cooperative agreements were written up for 11 farmers to farm 219 acres. Only 40 acres were not flooded out. Five acres of corn were left in the field for wildlife and 22 acres of wheat were aerially seeded into standing soybeans. Geese grazed very heavy on this wheat.

Deposits from surplus crops made into the 8210 special account were small. Deposits amounted to \$110.75 for wheat, \$200.30 for corn and \$429.17 for soybeans.

10. Pest Control

The following chemicals were used to control pest plants in Batchtown farming operations.

Treflan was applied to 30 acres to control wild sunflower, cocklebur and johnson grass in soybeans.

Atrazine was applied to 20 acres to control foxtail, wild sunflower, cocklebur, smartweed and mourning glory in corn fields it was applied at a rate of 1.5 to 2 lb. A.I./acres.

Lasso was mixed with lorox at a rate of 1/2 lb. lasso A.I./acre and 1/3 lb. lorox A.I./acre and applied to 1.5 acres of soybeans to control cocklebur, smartweed and mourning glory.



Sencor was applied to 20 acres to control cocklebur in soybeans.

G. WILDLIFE

2. Endangered and or Threatened Species

The only endangered species found on Batchtown was the American Bald Eagle. Total use was 384 use days with a peak of 5.

3. Waterfowl

Duck use totaled 971,388 use days with a peak of 14,145 in March. This was a reduction of 55% from 1981. A combination of warm weather and the Corps of Engineers dropping the water level down and then having floods during the fall migration really cut the duck population.

Mallards accounted for 61% of the total duck use days.

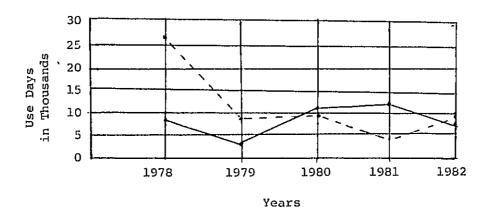
Duck production for the year was 1,750. This was made up of 450 mallards, 100 blue-winged teal and 1,200 wood ducks.

Total goose use was 40,825 a reduction of 47,551 from 1981.

Coot use dropped from 112,572 in 1981 to 44,015 in 1982.

4. Marsh and Water Birds

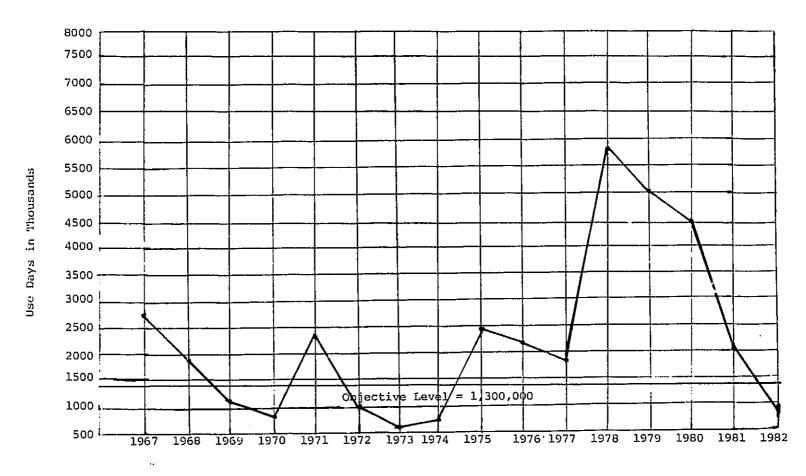
Total use for this group was 8,653 use days. The great egret was the most abundant, accounting for 2,250 use days, and a peak of 50.



Use by Marsh and Water Birds

Use by Shorebirds, Gulls, Terns and Allied Species -----

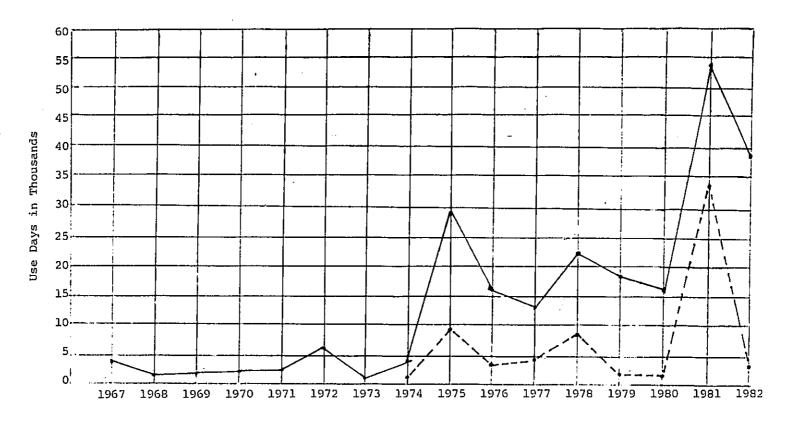




Duck Use Days - Batchtown Division

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Goose Use Days - Batchtown Division

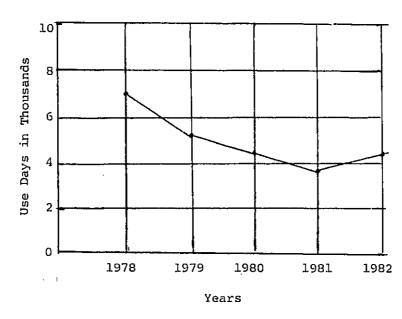
Blue and Snow Geese ----Canada Geese

5. Shorebirds, Gulls, Terms and Allied Species

Twelve species of birds in this group were found on the area. Total use by this group amounted to 9,438 use days compared to 4,040 use days in 1981. The golden plover was the most abundant bird in this group in 1982.

6. Raptors

There were four species belonging in this group found on Batchtown. Total use was 4,090 use days. Screech owls were the most abundant species in this group.



Use by Raptors

8. Game Mammals

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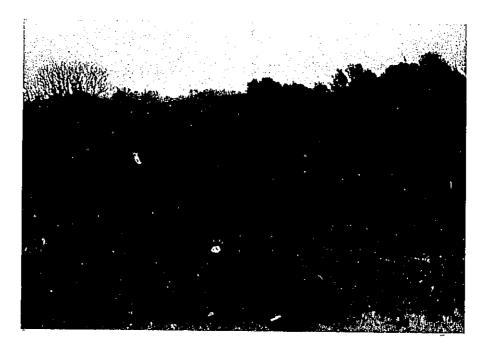
The beaver population has increased to a point where refuge personnel have to constantly tear out beaver dams and take trash out of water control structures to drain water areas.

H. PUBLIC USE

9. Fishing

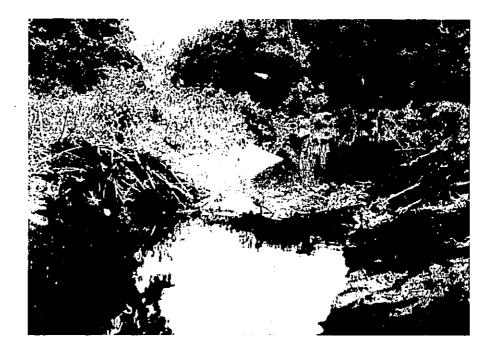
Fishing accounted for 5,125 activity hours of public use. Water running through the water control structure between the Mississippi River and Prairie Pond created a very popular fishing area. Catfish, Black bass, white bass and crappie were all caught in this area.

11. Wildlife Observation



Part of the flock of Canada Geese that grazed on Wheat aerially seeded into standing soybeans.

GWP 11/82



Beaver dam which had to be removed several times while trying to drain Prairie Pond area of Middle Pool

200.

Visitors checking to see if they could see any wildlife on the refuge paid 1,435 visits to the refuge.

17. Law Enforcement

Illinois Department of Conservation Officier Stumpf and Refuge Manager Peyton caught 5 waterfowl hunters hunting on the refuge. These cases were taken to state court and each hunter was fined \$150.